SCIENCE
Fourth Grade

LIFE SCIENCE STANDARDS

Cell Structure and Function

The student will investigate the structure and function of plant and animal cells.

Key	Reporting Category		WILD Activity
I		Examine a variety of plant and animal cells.	
A	**SF**	Identify the function of specific plant and animal parts.	Grasshopper Gravity, p.W4 Adaptation Artistry, p.W128, p.FW88
A	**SF**	Recognize the basic structure of plant and animal cells.	
A	**SF**	Identify animal and plant cell structures and functions.	

Interactions Between Living Things and Their Environment

The student will investigate how living things interact with one another and with nonliving elements of their environment.

I		Examine and relate how plants and animals interact with each other and their environment.	Habitat Rummy, p.W14 Thicket Game, p.W114 Surprise Terrarium, p.W120
A	**E**	Select plants and animals found in a specific environment.	Graphananimal, p.W49 What Bear Goes Where?, p.W118 Water Plant Art, p.AW31
A	**E**	Recognize how plants and animals interact with each other in their environment.	Color Crazy, p.W2 Quick-Frozen Critters, p.W122 Marsh Munchers, p.AW34
I		Provide evidence and give examples of environmental changes caused by living things ***(including humans)***.	Ethi-Thinking, p.W303 Playing Lightly on the Earth, p.W432
A	**E**	Identify ways that organisms ***(including humans)*** affect their environment.	Ethi-Thinking, p.W303 Playing Lightly on the Earth, p.W432
TPI		**Describe how plants and animals interact with respect to pollination and seed dispersal.**	**Seed Need, p.W98**

Food Production and Energy for Life

The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

D		Explain that animals must obtain food and use food for energy.	What's for Dinner?, p.W96 Owl Pellets, p.W100 Marsh Munchers, p.AW34
A	**SF**	Compare how various animals obtain and use food for energy.	Muskox Maneuvers, p.W130 Marsh Munchers, p.AW34 Grizzly Gizzards, p.FW268
A	**SF**	Match the edible parts of plants with particular plant structures.	

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D		Compare how specific animals obtain oxygen (e.g., gills, lungs).	Fashion a Fish, p.AW56
A	**SF**	Match the animal with their means of obtaining oxygen.	

Heredity and Reproduction

The student will understand the basic principles of inheritance.

D		Compare the traits of offspring with those of the parent.	Are You Me?, p.AW2
A	**LC**	Distinguish offspring from the parent.	Are You Me?, p.AW2
A	**LC**	Recognize the relationship between reproduction and the survival of a species.	Oh Deer! , p.W36 Sockeye Scents, p.AW61
D		Describe the life cycle of an animal (i.e., frog, mealworm).	Sockeye Scents, p.AW61
A	**LC**	Select the illustration that depicts the life cycle of a specific organism.	

Diversity and Adaptation Among Living Things

The student will understand that living things have characteristics that enable them to survive in their environment.

D		Classify animals according to their characteristics.	Tracks!, p.W30
A	**E**	Match a plant or animal adaptation to a particular environmental condition.	Thicket Game W114 Adaptation Artistry , p.W128, p.FW88 Fashion a Fish, p.AW56
A	**E**	Compare and contrast groups of organisms according to their major features.	
A	**E**	Match the form of structures found in living things to their function.	Grasshopper Gravity, p.W4 Grizzly Gizzards, p.FW268 Avian Acoustics: Sound Off!, p.FW278

Biological Change

The student will understand that living things have changed over time.

D		Examine fossils and explain how they provide information about the types of organisms that lived in the past.	
A	**LC**	Match fossil evidence with organisms that are alive today.	
A	**LC**	Identify animal and plant populations as thriving, threatened, endangered, or extinct.	How Many Bears Can Live in This Forest?, p.W23 Oh Deer! , p.W36 Here Today, Gone… W154 Checks and Balances, p.W387
A	**LC**	Infer possible causes of extinction.	Here Today, Gone Tomorrow, p.W154

EARTH SCIENCE STANDARDS

Earth and Its Place in the Universe

The student will investigate the structure of the universe.

D		Identify and order the planets in the solar system by their distance from the sun.	
A	**SC**	Determine the order of the planets according to their distance from the sun.	

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A	**SC**	Recognize that the length and position of a shadow are related to the location of the sun.	
D		Demonstrate how the earth rotates and revolves.	
D		Simulate the changing shape of the moon.	
A	**SC**	Identify the phases of the moon in the correct sequence.	

Atmospheric Cycles

The student will investigate the relationships among atmospheric conditions, weather, and climate.

D		Identify and use the proper tools to measure atmospheric conditions (i.e., barometer, thermometer, anemometer, and rain gauge).	
A	**SC**	Identify the cloud type(s) associated with specific weather conditions.	
A	**SC**	Choose the appropriate instrument for measuring a given atmospheric condition.	
I		Describe how oceans affect weather and climate.	
A	**SC**	Identify the basic features of the water cycle.	Where Does Water Run? , p.AW21 Aqua Words, p.AW29

Earth Features

The student will understand that the earth has many geological features that are constantly changing.

I		Observe and describe how wind and water change the earth's geological features.	
A	**ER**	Recognize specific geological features.	
A	**ER**	Determine how wind and water change the earth's geological features	
I		Identify the earth's layers.	
A	**ER**	Identify the layers of the earth.	

Earth Resources

The student will investigate the properties, uses, and conservation of earth's resources.

D		Classify earth materials according to their use.	
A	**ER**	Choose the appropriate use for an earth material.	
I		Identify the different components of soil.	Eco-Enrichers W102
A	**ER**	Identify the basic characteristics of soil.	Eco-Enrichers W102
A	**ER**	Distinguish between renewable and nonrenewable resources.	What You Wear Is What They Were, p.W210 Make a Coat! , p.W243

PHYSICAL SCIENCE STANDARDS

Forces and Motion

The student will investigate the effects of force on the movement of objects.

A	**ME**	Recognize the effects of gravity.	
A	**ME**	Select factors that have the greatest effect on the motion of an object.	
A	**ME**	Determine how speed affects distance traveled over time.	

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A	**ME**	Recognize simple machines (i.e., inclined plane, lever, and pulley)	
I		Identify factors that affect the amount of friction.	

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Structure and Properties of Matter

The student will investigate the characteristic properties of matter.

M		Describe and compare observations made of objects using the naked eye, magnifying glass, and microscope.	
M		Describe matter by its observable physical properties (i.e., color, shape, texture, weight, volume, and length).	
A	**M**	Select an object according to its observable physical properties.	
A	**M**	Identify states of matter.	
A	**M**	Determine how various types of matter change state.	

Interactions of Matter

The student will investigate the interactions of matter.

A	**M**	Choose features associated with physical changes.	
A	**M**	Identify characteristics of different types of mixtures.	
A	**M**	Determine methods for separating mixtures.	

Energy

The student will investigate energy and its uses.

A	**ME**	Identify different forms of energy.	
I		Describe how light behaves when it strikes different surfaces.	
I		Explain how the volume and pitch of sound are controlled.	
A	**ME**	Distinguish between the volume and the pitch of sound.	
I		Construct and explain a simple electrical circuit.	
A	**ME**	Select a simple electrical circuit.	
I		Categorize materials as conductors or insulators.	
A	**ME**	Recognize that various materials conduct heat.	

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